MATLAB Bootcamp – Homework 4

Save your code in a .m file (e.g. HW4.m). Add comments by including % signs before any text you want MATLAB to ignore. You are not obligated to submit anything to me, but if you want to check your answers you can email me your code and I will have a look at it. Also, feel free to contact me if you have any problems! kdrushka@ucsd.edu

1. Download the ASCII text file tao_sst.txt from the class website (http://www-pord.ucsd.edu/~kdrushka/matlab/tao_sst.txt).
    a. Use fopen to open the file tao_sst.txt for reading.
    b. Use **`fgetl`** to display the header lines. How many header lines are there?
    c. Now, use **`dlmread`** to read the data in tao_sst.txt. Hint: use four input arguments when you call **`dlmread`**:
    `dlmread(filename,delimiter,R,C)` where R is the number of rows to skip (i.e. the number of lines in the header) and C is the number of columns to skip (zero – we want all of the columns). The delimiter is a space, defined as a space surrounded by single quotation marks.
    d. The first column of data is the date, in Matlab serial date format. The second column is SST and the third column is the quality flag, which is 2 for "good" data and 0 for bad data. How many bad data points are there?
    e. Set the bad data to nan, and plot SST against time in a new figure.
2. Download the NetCDF file tau.nc from the class website (http://www-pord.ucsd.edu/~kdrushka/matlab/tau.nc).
    a. Load all of the variables from tau.nc into your workspace.
    b. Plot tau against time for a lat/lon index of your choice.
    c. Create a cell array that contains all of the data from tau.nc in separate cells.